ORIGINAL

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Health Resources and
Services Administration
Rockville MD 20857

Office of the Secretary
Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

Dear Chairman Kennard:

This letter is in response to the Federal Communication Commission's (FCC) Further Notice of Proposed Rulemaking, (NPRM) CC Docket No. (96-45) which seeks comment on, among other things, the "possible impediments to deployment and subscribership in unserved and underserved areas of the Nation."

The Office for the Advancement of Telehealth (OAT), Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (DHHS) welcomes this FCC NPRM, which seeks to promote Universal Service in tribal lands and other insular areas. OAT's mission is to promote the wider adoption of effective telecommunications and information technologies to provide our Nation's underserved with greater access to health care services and training.

Health care issues in the Pacific insular jurisdictions are in many ways related to the areas' unique demographics, geographic setting, and lack of sophisticated telecommunications and other relevant infrastructures. Our comments on Section VII of the NRPM are limited to the problems facing rural health care providers in the Pacific insular jurisdictions. Our general comments address infrastructure issues that affect tribal, insular and other rural areas in the Nation.

(Section VII) Insular Areas

Background

To understand the Pacific insular areas' special needs, one must comprehend the challenges posed by the area's demographics, geographic setting and poverty. The U.S. Associated Pacific Basin consists of six jurisdictions: American Samoa, Guam, Commonwealth of the Northern Mariana Islands (CNMI), Republic of the Marshall Islands (RMI), Federated States of Micronesia (FSM), and Republic of Palau (ROP). American Samoa and Guam, unincorporated territories, and CNMI, a commonwealth Convenant, are officially part of the United States and also called flag territories. The latter three jurisdictions are freely associated with the United States, meaning they are politically independent but have each signed Compacts of Free Association with the United States establishing specific rights and responsibilities.[1]

[1] The FSM and RMI signed their compacts in 1986, Palau in 1994. Prior to that time, the United States had administrative control over these islands. Each compact provides for developmental assistance and cedes full authority and responsibility for the jurisdiction's defense to the United States.

The total population of all six jurisdictions is about 454,000.[2] That population is spread across 104 inhabited islands covering an expanse of ocean larger than the continental United States. As shown in the table below, in 1995, more than 50% of the population of American Samoa, Palau and FS Micronesia lived below the poverty line. According to the Department of the Interior "Poverty levels use the US standards, even when they are not comparable to the insular areas' situations." Based on US standards, about 25% on Guam were living below the poverty line compared to about 29% in the Virgin Islands and 33% in the CNMI. For other areas, which live partly on subsistence which is not considered in poverty determinations, the levels were much higher – about 63% of the people in Palau were below poverty, 68% in American Samoa, and more than 91% in the Federated States of Micronesia.[3]

Insular Areas Per Capita Income for 1995

Name	Per capita income	Percentage below poverty line
United States	$16,555	11.6
Puerto Rico	NA	NA
Virgin Islands	$12,748	29.1
Guam	$11,552	25.4
CNMI	$6,984	33.3
American Samoa	$2,861	67.7
Palau	$3,508	62.8
FS Micronesia	$940	91.0
Marshall Islands	NA	NA

Source: Department of the Interior, Office of Insular Affairs, "A Report of the Islands", 1997 Appendix A, Table1

Given these statistics, it is not surprising that almost all health indicators for islanders are worse than those in the United States, particularly in the freely associated states (FAS). For example, average life expectancy in the jurisdictions is 69.1 years compared with 76.0 years in the U.S. Infant mortality (deaths per 1,000 births) is very high in the FAS, ranging from 46.0 in the Federated States of Micronesia to 26.0 in Palau compared with 7.2 in the U.S. Diabetes, cancer, tuberculosis, tobacco use, alcohol abuse, and suicide are serious health problems in many of the jurisdictions.[4]

Contributing to these poor health outcomes are unique challenges in the jurisdictions' health care delivery system. Because the population is scattered over such a wide area, in most jurisdictions, over 20% of residents must travel over one hour to a health facility. Since most of the jurisdictions do not have many paved roads, land travel can be slow. In addition, except for

[2] Information in this introduction is drawn heavily from Pacific Partnerships for Health: Charting a New Course (1998) by the Institute of Medicine.

[3] Source: Department of the Interior, Office of Insular Affairs, A Report of the Islands, 1997, Appendix A, Table 1.

[4] In the Republic of Marshall Islands, 30 percent of the population over age 15 suffers from diabetes. In Guam, the prevalence of middle-age-onset diabetes is seven times that of the US. Cancer is one of the top three causes of death in all the jurisdictions.

Guam, each jurisdiction consists of multiple islands[5], thus necessitating travel by boat or plane, which adds to the cost and time.

Sometimes, patients must be referred out of the region for treatment, which creates a serious drain on the jurisdictions' health budgets. In some years, American Samoa, the Marshall Islands, and the Federated States of Micronesia have spent between 20 and 30% of their health care budget on off-island referrals. Round-trip plane tickets to Hawaii cost from $700 in American Samoa to $1,600 in Palau.[6] Trips often involve multiple stops, long layovers, and over ten hours in the air.

Telemedicine is one strategy for reducing these expensive off-island referrals, but high telecommunications costs and limited infrastructure prevents telemedicine from proliferating. Long-distance phone rates can be from $2.50 to $5 a minute, and phone or Internet service is often unavailable, unreliable, or low quality. Many outer islands do not have access to phones but rather communicate using radiophones to the main islands. For example, most of the inhabited outer islands located near Palau communicate with their main island via radiophones.

Comments

(#138) What areas should be included in the FCC's Insular Area Definition?

- The Office for the Advancement of Telehealth agrees with the FCC's tentative conclusion that Puerto Rico, American Samoa, CNMI, Guam, and the US Virgin Islands should be included in the definition of insular areas. These areas have historical, treaty and economic ties with the United States and should be included in the definition. In both 1996 and 1997, DHHS provided approximately $56.6 million in funding for health care in the three Pacific jurisdictions named above.

(# 139) *Should the FCC include the Freely Associated States in the definition of insular areas?*

- Consistent with other Federal health policies, OAT urges the FCC to include the Freely Associated States (FAS)[7] in its definition of insular areas. Historically, the United States was designated the United Nations' trustee for this area after World War II. More recently, the Freely Associated States have each negotiated an independent compact with the United States. A key component of these compacts has been agreements about health care services. DHHS has had a long-standing commitment to support health services and training in the FAS. For example, DHHS provided approximately $13.5 million in funding for health care in the Freely Associated States in 1996 and again in 1997.

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[5] Travel is especially difficult in the Federated States of Micronesia, which includes 62 separate islands crossing three time zones. At the other extreme is American Samoa with only three islands, but even here, travel can take several hours on a regular plane or eight hours by boat.

[6] Based on phone calls made in Spring 1999.

[7] The Freely Associated States consist of Republic of the Marshall Islands, Federated States of Micronesia, and Republic of Palau.

(#141) What are the differences between the needs and opportunities of rural health care providers in insular areas and those located on mainland USA?

Important characteristics that set insular areas apart from other rural areas in the USA include:

1. **The enormous costs involved with sending patients off island for tertiary or specialized care.**
   - In some years, 30% of a jurisdiction's health care budget is used for off-island care. Although these referrals consume a large part of the health budget, they benefit only a small number of patients.
   - Plane travel to Hawaii costs from $700 in American Samoa to $1,600 in Palau and flights are infrequent. For example, Hawaiian Airlines only flies to American Samoa on Monday and Friday.

2. **Extreme isolation of the region.**
   - American Samoa, the closest jurisdiction, is a five-hour plane trip to Hawaii. Palau, the furthermost jurisdiction, is a 16-hour trip to Hawaii, including the required stopover.
   - Only one airline carrier serves this region
   - There are only two flights per week between Hawaii and American Samoa.
   - The region spans five time zones and crosses the international dateline.

3. **Shortages of adequately trained health care personnel.**
   - None of the jurisdictions have enough health professionals to adequately serve its population. American Samoa, Palau, and the Federated States of Micronesia are designated Health Professional Shortage Areas (HPSAs) in primary care, dental care, and mental health care, according to the U.S. Department of Health and Human Services. The Marshall Islands are shortage areas in primary care and dental care. The remaining jurisdictions (Guam and the Mariana Islands) are a combination of whole and partial shortage areas in these categories.
   - American Samoa, the Marshall Islands, and the Federated States of Micronesia have significantly higher ratios of population to primary care physicians than the United States average.[8]
   - There are no medical schools located in the U.S. Associated Pacific Basin jurisdictions. Moreover, the Pacific Basin Medical Officers Training Program, a regional Medical Officers training program based in Pohnpei and instituted in 1986 to address an imminent physician shortage, was closed after 10 years. It has trained indigenous individuals as primary care providers, who can function as Medical Officers (M.O.s) only within the jurisdictions. Seventy students graduated and are now practicing in the region. However, to maintain and improve skills, these M.O.s need access to continuing education and training.

[8] Ratios for Pacific jurisdictions are based on data from the 1996 Report of the HRSA Pacific Basin Intra-Agency Workgroup, the 1998 book Pacific Partnerships for Health, and the 1998 World Health Organization Information Profiles. Jurisdictions are listed as below the U.S. primary care physician ratio if they were listed as such in all three reports. The U.S. ratio is from the 1996 national data listed by the U.S. Department of Health and Human Services at http://www.bphc.hrsa.gov/oear/sitepro.htm.

- There is an extreme shortage and uneven distribution of dentists in the jurisdictions. Half of the region's dentists are on Guam, with the other half scattered throughout the entire region. Excluding Guam, ratios of dentists to people range from 1 per 4,306 in Palau to 1 per 14,811 in the Marshall Islands. In the US, the ratio is 1 dentist per 1,785 people.
- The University of Guam has the only 4-year, BSN nursing program in the region.
- Several of the other jurisdictions have 2-year nursing programs at their community colleges. However, many of the programs have had difficulty recruiting and retaining faculty, affecting the quality of the programs. Many of the graduates from these programs have failed to pass U.S. RN licensing exams.

4. **Difficulty in recruiting and retaining health care providers in such an isolated area.**
   - With the exception of Palau, between 60 and 100% of the medical doctors with M.D.s or M.B.B.S.s degrees[9] in the jurisdictions are expatriate physicians, and are often hired on two-year contracts. Thus, there is great turnover in these types of physicians.
   - Faculty recruitment and retention in the nursing programs and other allied health science programs is difficult.

5. **Poorly maintained and equipped health care facilities.**
   - There are no tertiary hospitals with specialty care located in the jurisdictions.
   - Hospitals in Guam, American Samoa and CNMI are certified by the Health Care Finance Administration (HCFA) to receive Medicare and Medicaid payments, however, maintaining HCFA standards has been difficult.
   - There are no hospitals in the jurisdictions accredited by the Joint Commission on Accreditation of Health Care Organizations (JCAHO)[10]. In contrast, all 50 states have several facilities accredited by JCAHO.
   - In American Samoa, the Marshall Islands, and parts of the Federated States of Micronesia, the hospitals are built of wood or coated cardboard, or have major safety problems. Equipment and supplies for CT scans, X-rays, and MRIs are unavailable in most of the jurisdictions.
   - Primary care sites (called "dispensaries") may lack basic supplies such as aspirin. These sites are usually staffed solely by health assistants who receive only limited training. Communication with higher trained personnel is usually available only by phone or radio.

(#143) Do the rules concerning calculation of rural health care support need modifications to address the geographic or demographic situation in insular areas? Propose specific revisions.

Urban Benchmarks

- Using an urban rate based on rates charged in the "nearest large city in the state" as a benchmark to calculate rural health discount rates for telecommunications services is not appropriate in the Pacific insular areas. None of the Pacific jurisdictions have urban populations of 50,000 nor tertiary hospitals with specialty care. Part of the FCC's rational for choosing a city of 50,000 as "urban" for calculating subsidy rates was that "an MSA, as

[9] The British equivalent to the US M.D.

[10] The Joint Commission evaluates and accredits more than 19,500 health care organizations in the United States, including hospitals, health care networks, managed care organizations, and health care organizations that provide home care, long term care, behavioral health care, laboratory, and ambulatory care services.

defined by OMB, is based in part on counties with cities having a population of 50,000 or more and every state has at least one MSA with a city that size." However, insular areas lack cities with a population that size and lack counties or county equivalents. When the FCC's Universal Service Order was implemented, the decision was made to designate the largest community in each jurisdiction as "urban". Given that in many of the Pacific jurisdictions, all calls are local calls, there is no differential between what the largest communities and smallest communities pay for services. Thus, the flag territories, which pay into the universal service fund and are most in need of specialty services, receive no benefits from the FCC's Rural Health Care Program (RHCP). In part, this is because there are no cities of 50,000 and the large communities that do exist do not have the needed specialists that could provide services via telemedicine.

- Normally, teleconsultations are made between an urban specialist or subspecialist and a primary care provider in a rural setting. The Advisory Committee on Telecommunications and Health Care, established by the FCC to guide the implementation of the Universal Service Order, described in the report issued prior to the Joint Board's Recommended Decision, what it called its "market basket" of "essential telemedicine applications." The Advisory Committee developed the market basket as a guide to the level of telecommunication services "necessary to support rural telemedicine efforts." One of the tenets was that applications in the market basket include a comprehensive set of specialty services – such as radiology, dermatology, selected cardiology, pathology, obstetrics (fetal monitoring), pediatric, and mental health/psychiatric services. However, even in the largest communities in the Pacific jurisdictions, these health specialists typically don't exist.[11] Therefore, classifying these communities "urban" for the purpose of the FCC Rural Health Care Program, defeats the overall intent of the legislation and provides no assistance for the areas of greatest need.

OAT Recommended Revision

- OAT recommends that the FCC calculate the discount rate for rural health care providers in insular areas using the urban rate of the closest tertiary hospital with specialists, such as in Hawaii or the West Coast of mainland United States.

Some Estimated Costs

- The cost of using Hawaii or the West Coast of the United States to calculate the difference between the urban and rural rate is difficult to estimate because there are no links in place between and among these jurisdictions. The lowest bid based on a competitive bid for a T-1 between American Samoa and Hawaii was $780,000 and included Internet Service Provider charges. The American Samoa Telecommunications Authority won the bid.
- The second lowest bid submitted by ISDI and GTE was $840,000. The approximate costs of a T-1 between Guam and Hawaii and CNMI and Hawaii would probably be about $30-40,000 a month. If and when this comes out to bid, a direct earth station may yield a lower price if the long distance carriers were to examine other options, such as a wireless direct between sites.

[11] In Guam, there are a limited number of specialists, but not subspecialists.

- The estimated cost of a 384 Kbps link is about $8,000-$12,000 USD per month or about $64,000 per year. This does not include ISP services. Guam has on-island ISDN, but not off-island yet. CNMI and American Samoa do not have ISDN capabilities.[12]

Other Comments

(# 133) To what extent should improvements to the telecommunications network, required to meet the telecommunications needs of rural health care providers, be supported by federal universal service mechanisms?

Given the rapid advances in telecommunications and information technology, it is not difficult to imagine how many areas in the US that had previously lacked infrastructure may soon be served by wireless or other advanced technologies that may be cheaper and faster to deploy than wireline technology. However, there are other areas where the likelihood of developing the advanced telecommunications services required for telehealth services within the next two to five years is slim. The Pacific insular jurisdictions fall into this category. Since we have already commented on these areas, we limit these comments to some of the challenges facing our grantees in largely rural states in the continental US and Alaska.

Many rural states do not have state funding or programs supporting telecom infrastructure development for rural telehealth purposes. Moreover, most of the federal telehealth programs, cited in the FCC's NPRM footnote 245, do not provide funds for telecom infrastructure development costs. For example, the largest Department of Health and Human Services (DHHS) telehealth grant programs including OAT's Rural Telemedicine Network Grant Program[13] and the Office of Rural Health Policy's Rural Health Outreach Grant Program do not give grants for telecommunications infrastructure development or telecom transmission costs. In fact, their legislative authority specifically prohibits the use of federal funds for the purchase or installation of transmission equipment.

The Commerce Department's Telecommunications and Information Infrastructure Program (TIIAP)[14] also does not provide funds for telecommunication infrastructure build-out or telecom transmission costs. The Department of Agriculture's Rural Utility Service's (RUS) Distance Learning and Telemedicine Program does provide grants and long-term loans to improve rural telecommunications infrastructure. However, few have applied for the loan program and the grant program is small. In FY 1998, 60 awards were made totaling $16 million ($12.5 in grants and $3.5 in loans combined with grants). Only twenty-five of the 60 awards in FY 1998 were for telemedicine projects; the rest were for K-12 distance education. Moreover, although the RUS

[12] Based on conversations and emails with Norman H. Okamura, Ph.D. Associate Specialist, Social Science Research Institute, University of Hawaii.

[13] Under OAT's program, not more than 40% of the total grant award may be used to purchase or lease and install equipment. Grant dollars may not be used for construction or renovation, except for minor renovations related to the installation of equipment.

[14] TIIAP grant funds can be used to purchase equipment for connection to networks, including computers, video-conferencing systems, network routers, and telephones; to buy software for organizing and processing all kinds of information, including computer graphics and databases; to train staff, users, and others in the use of equipment and software; and to purchase communications services, such as telephone links and access to commercial on-line services.

dollars may be used for transmission equipment, the majority of the health-oriented projects purchase telemedicine equipment, not transmission/telecommunications equipment with their funds. (In the FY 1999 cycle, RUS did award a grant of $269,360 for a spread spectrum microwave system that will provide telecommunications linkages among rural health agencies in Maine.) This type of application tends to be the exception, not the rule. Last, the maximum grants award amount is $350,000. Generally, this would not be a sufficient amount of money to undertake a major build-out of telecom capacity.

The Federal Communication Commission's Rural Health Care Program is the only Federal program with funding specifically designed to address rural telehealth's high transmission costs. Moreover, this FCC Program is one of the few federal programs that do not involve a competitive process. All the above-mentioned programs, are competitive grant programs that have limited coverage and may by-pass some of the neediest communities.

Based on experience with our grantees, we believe that some form of telecom infrastructure development funding would greatly assist rural health care providers in areas with limited telecommunications services. In Alaska, our rural telehealth grantees are limited to expensive satellite communications services to reach their far-flung clients because other telecommunications services are not yet available. Even in states such as the Dakotas, advanced, broadband telecommunication services are not always available. And, given the heavy debt load of many of the small rural cooperative telcos that serve these communities, it is not feasible for these telecos to take on additional debt to improve the infrastructure. These are also areas unlikely to profit from competition because their population bases are so small. That is, many of these areas are classified as frontier because they have fewer than 6 people per square mile. There is simply an inadequate population base over which to spread the costs of major telecommunication upgrades, making it difficult for the telco serving the area to make such improvements, and making it an unlikely place for a competitor to enter the market.

We therefore believe there may be areas that may only gain access to the needed telecommunication services through an infrastructure enhancement program. We are in the process of gathering additional information to determine which areas fit this category and will provide such data to the FCC once it is available. A possible vehicle for this type of program might be the Telecommunications Development Fund. Congress created the Fund through the Telecommunications Act of 1996 to "promote access to capital for small businesses in the telecommunications industry, to stimulate the development of new technologies, and to support the delivery of universal service and telecommunications services to underserved rural and urban areas."[15] OAT strongly urges the FCC to explore the use of this program for upgrading telecommunications infrastructure capacity of American's chronically underserved, rural communities.

[15] FCC Public Notice, October 1, 1996

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Director, Office for the Advancement of Telehealth
Health Resources and Services Administration
US Department of Health and Human Services

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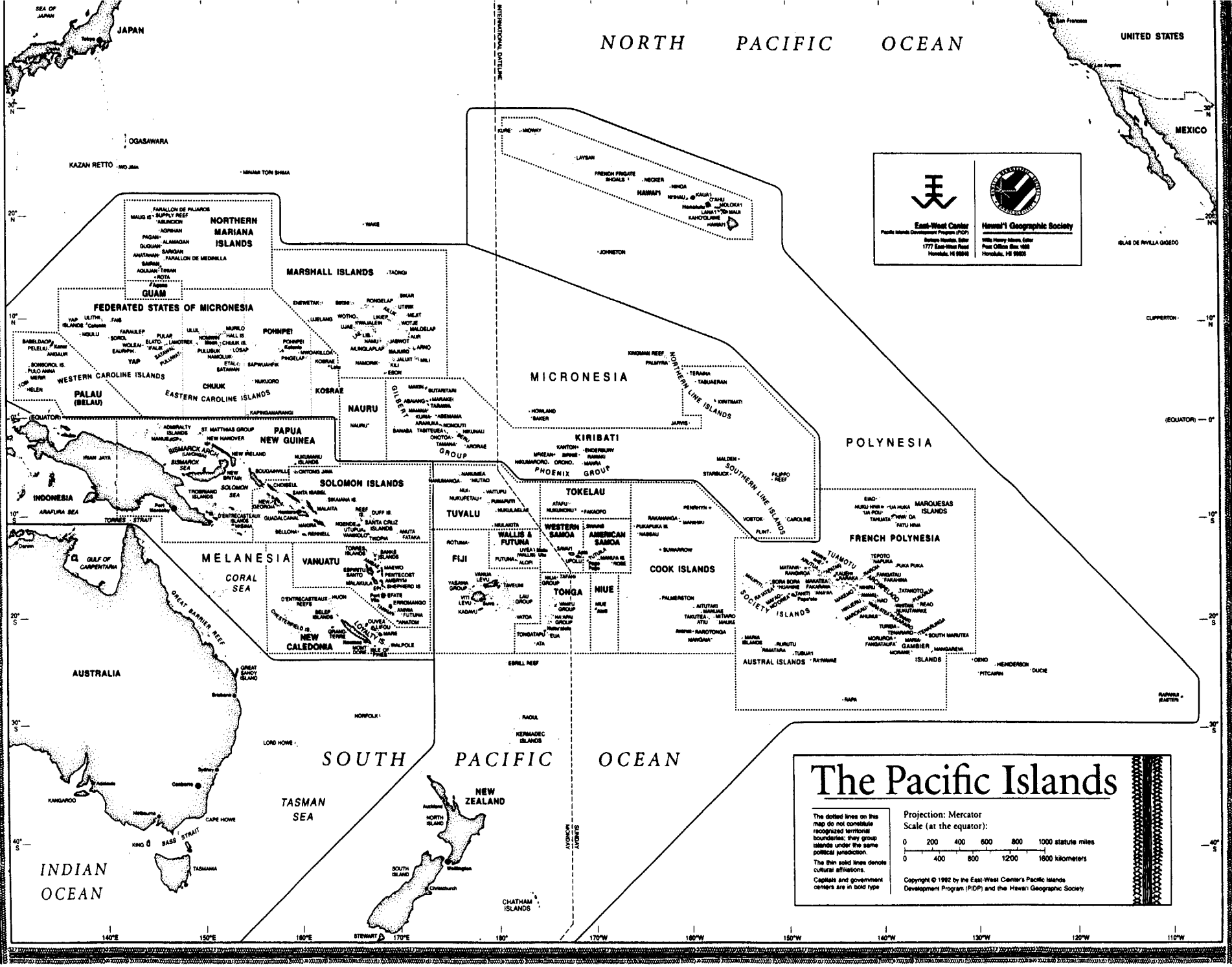
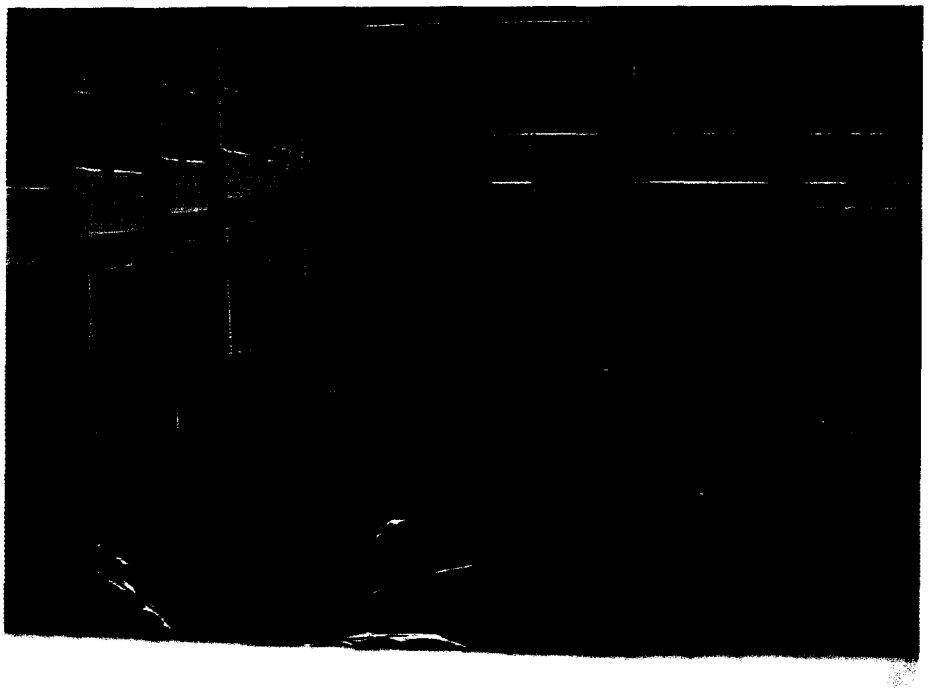


For a list of available maps, contact: HAWAI'I GEOGRAPHIC SOCIETY PUBLICATIONS, P. O. Box 1698, Honolulu 96806-1698, Hawai'i 808-538-3952

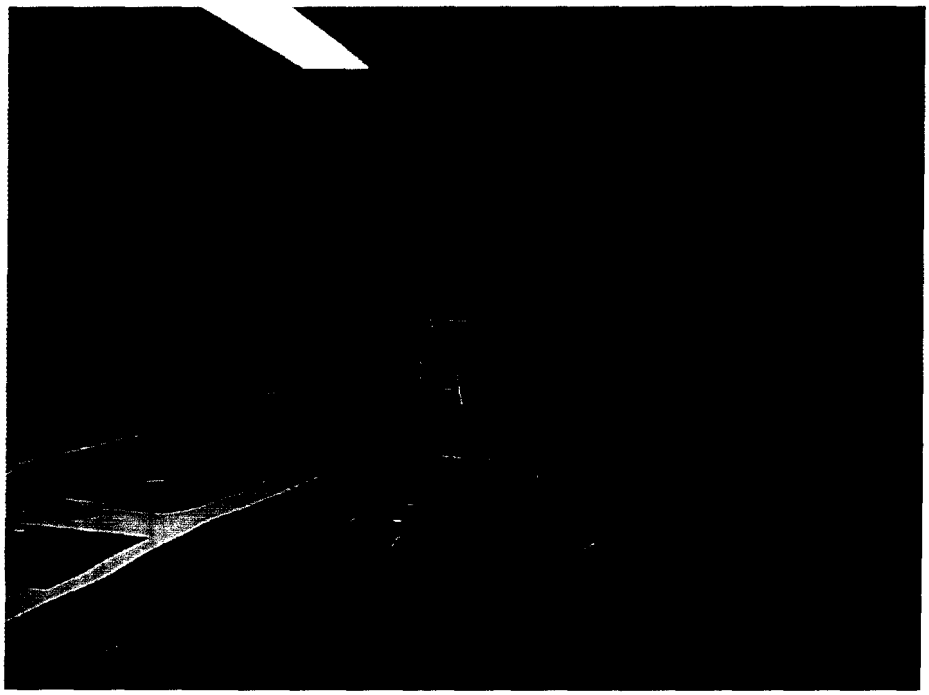
Photos from September 1999 Site Visit
Chuuk Hospital, Federated States of Micronesia

Front of Chuuk Hospital on a weekend (otherwise, it would be filled with cars)

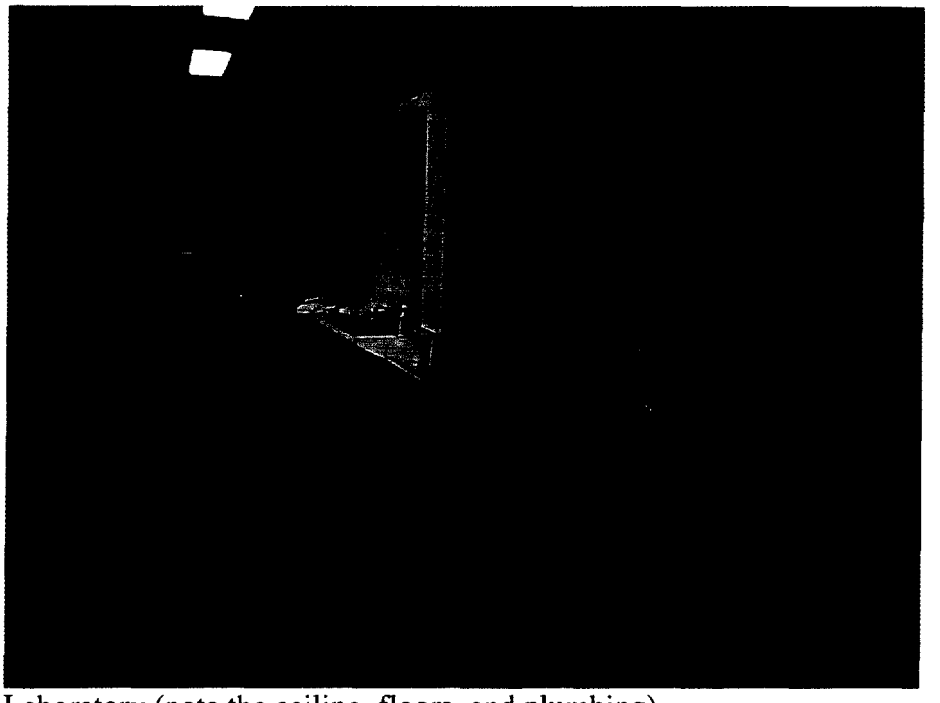


Chuuk Hospital courtyard. The whitewashed walls are the outside of the Pediatric Ward, which is being renovated.

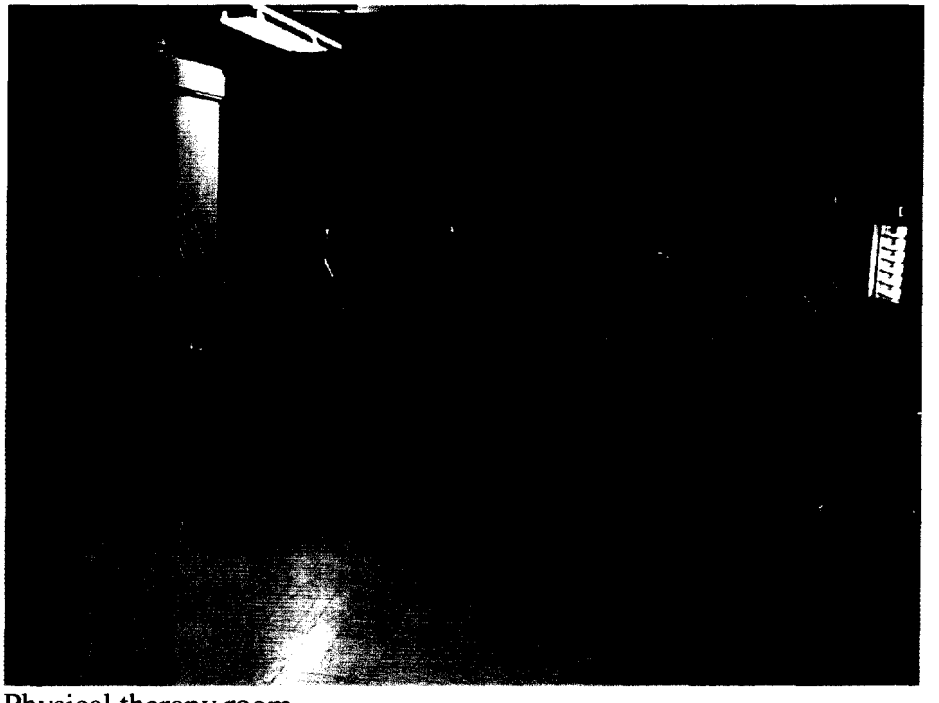
Operating Room, Chuuk Hospital



Surgical drying room. Note ceiling.



Laboratory (note the ceiling, floors, and plumbing)



Physical therapy room